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ABSTRACT

This review paper discusses the implications of the California Statewide Longitudinal Study (SLS) of community college students for 2-year vocational education. After introductory material examining problems in vocational student follow-up, the paper presents relevant findings from the SLS, discusses their significance for vocational education, and makes recommendations for future administrative action and further research. The paper highlights the ability of the SLS to define accurately student functions through the use of student prototypes, and the findings that students relate more to courses and skills than to programs; that, for the majority of vocational students, their studies were related to their jobs; and that, in terms of prototypes, the majority of "program completers" were day students, the majority of "job upgraders" and "career changers" were evening students, and the category of "job seekers" was more evenly split between day and evening students. Among the major recommendations were that: (1) SLS special population data should be compared with similar data collected by individual colleges; (2) the SLS follow-up should be continued with added emphasis given to comparisons among vocational, technical, and special interest students; (3) data on "transfer/tech" and "leisure vocational skills" students should be computed separately from other vocational categories; and (4) programs should be modified to meet the needs of identified student prototypes. (HB)

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The Value of the

STATE LONGITUDINAL STUDY for

VOCATIONAL EDUCATION CURRICULUM

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BACKGROUND

Public vocational education must maintain its links with business and industry if it is to continue to provide appropriate and effective training for its vocational students. This requirement is so vital that several of the business related "principles" of vocational education have become part of the body of formal regulations which govern vocational education. E.g., vocational instructors must have practical work experience in the occupation in which they teach. Business and industry occupational advisory committees should be named and should meet regularly to help review public vocational instruction and to assure that facilities, equipment and instruction continue to meet the needs of the local trade or occupation. The followup of former students has been mandated to help assure that the instruction given is effectively preparing students for a specific job market.

Public vocational education has also long recognized the importance of providing training, not just for industry needs but for the individual student as well. Over a 20-year period, starting in 1962, there has been a gradual shift in emphasis in Federal vocational priorities from specific vocational programs such as agriculture to special populations such as minorities, women, handicapped and limited English speakers. The Vocational Education Act (VEA) amendment of 1976 reenforced this emphasis by requiring that followup information be collected, not just by vocational discipline, but by special population groups as well.

PROBLEMS

Community college vocational educators have wrestled for years with the problems of conducting an effective, curriculum-oriented, followup of former vocational students. Most college vocational programs are a sequence of six to ten courses; and students drop out (or job-out) at any time from their first

course through a certificate or degree. This obviously severely complicates the process of evaluating curriculum (for either industry standards or for student needs or both), solely on the basis of job placement, which is the current practice. Further complicating the utilization of placement information as the sole evaluation criteria has been the knowledge (qualitative but not quantified) that there were undoubtedly several different groups or "types" of students who took vocational courses. Some of these groups which did not meet the criteria of being involved in preparation for a job at less than a baccalaureate level. The Student Accountability Model (SAM), which was developed several years ago, was an important step in helping to resolve some of these problems of followup. Obviously, the more accurately a student could be determined to be "vocational," the more meaningful would be the followup data.

Another problem of vocational student followup is that college vocational instructors frequently complain that they are unable to obtain followup feedback about their program and curricula. This problem has been identified by the Community College Occupational Program Evaluation System (COPES). COPES annually gathers input from instructors about their own program and accompanying vocational support activities, such as student followup. For example, one criticism which I've picked up from instructors in my District is that the information usually collected (placement data exclusively) doesn't give them enough information with which to consider redesigning their program and/or curricula.

Still another problem associated with vocational student followup is the marginal utility of the little data which is obtained. Despite intensive followup efforts, followup response rates are frequently quite low: between 20% and 50%. At this low response rate, it is difficult to determine whether programs and curricula are relatively effective (or ineffective).

GENERAL DISCUSSION

The Statewide Longitudinal Study (SLS), begun in 1978, has provided a wealth of ideas and improvements with regard to general student followup procedures and to vocational student followup in particular.

For example, because contact with the population selected has been rigorously maintained, high response rates have been achieved; and the prospects of obtaining valid and usable demographic data (e.g., age, sex, ethnicity and other special populations) has been greatly enhanced. This is very important in terms of Federal reporting requirements for special populations. The study suggests that the cost of a regular SLS for collecting and reporting valid followup data on special populations by vocational program can be substantially less than the multiple cost of (a) collecting this type of (frequently invalid) data by individual colleges and then (b) attempting to aggregate this data collectively for the State's report. Therefore, these recommendations are implied:

1. SLS special population data, by program, should be compared with similar data which is collected by individual colleges and collected by State staff, to determine the similarity or differences in responses and the comparative cost between the two methods.

2. Consideration should be given by college vocational managers and State Chancellor's Office vocational staff for continuing the SLS on a regular basis, if that method proves to be the most cost effective way of collecting special population data about former vocational students.

Another potential value of the SLS is that job placement data has been collected for transfer and special interest students, as well as for vocational students. I believe that, in part, one weakness of most prior vocational followup studies is that they have tended to look at and compare data exclusively about vocational students and programs. While this data is,

of course, of some value, it doesn't answer the important question, "How do former vocational college students compare with former transfer and/or special interest students in the job market?" The SLS under discussion can answer that question. Obviously, greater efforts than are currently made by regular follow up procedures would have to be given to the determination of individual job status and intentions at the time that students were taking their college courses. Therefore, this recommendation is implied:

3. The SLS followup study should be continued with added emphasis given to a comparison of what happened to former students among those classified as vocational, transfer and special interest.

SPECIFIC COMMENTS

In making specific comments about the SLS, I had access and will refer to two SLS documents:

a. Russell Hunter and M. Stephen Sheldon; Statewide Longitudinal Study, Report on Academic Year 1979-80, Part 4, Spring 1980 Results, Los Angeles Pierce College (State of California Contract No. 93488, hereinafter referred to as SLS-Part 4).

b. M. Stephen Sheldon, State Longitudinal Study, Part 5, Final Report, Chapter 5, The Vocational Function, unpublished Draft (hereinafter referred to as SLS-Part 5).

Obviously, in a study as extensive as this one is, it is impossible to discuss all of the pertinent curricula-oriented findings. Therefore, I intend to select some of those that are the most relevant, in my opinion. Later analysis by others will undoubtedly discuss other phases of this major study.

Finding (SLS-Part 4, Chapter 3, Pages 1-17):

"Student Prototypes offer community colleges faculties and administrators the opportunity to describe the mission of community colleges more accurately than ever before. Not only can ... three (college training) functions

of Transfer, Vocational Education and Special Interest be defined mutually exclusively, but subsets of students within each function can be described more accurately than before."

Discussion: The identification of student prototypes, particularly of those which classify vocational students (see my Table I), will probably have two major results. First, the prototype concept refines the current operational definitions of vocational students, thus permitting additional refinement in the determination of the effectiveness of vocational training and curricula. Specifically identified as nonvocational, although enrolled in intermediate and advanced vocational courses, are Transfer/Tech majors and Leisure Skills students. These two prototypes appear to constitute over one third of the "vocational" students presently being followed up by the current process. The Transfer/Tech major seems to be adequately identified and counted by the current followup process as within the reporting category of "continuing education." However, I don't believe that the Leisure Skills student is adequately identified and separately counted and reported. Appropo the above discussion, these recommendations are implied:

4. Current followup questionnaires and forms should be modified so that Transfer/Tech majors and Leisure Vocational Skills students can be more clearly identified and separately counted and reported.

5. Computations of the percentage of vocational students in related jobs should be made without the inclusion of either Transfer/Tech or Leisure Vocational Skills categories.

The second major result of prototyping is that it now appears possible to more definitively distinguish among those groups of job-oriented persons who enroll in vocational courses; and thus to refine the curricula or the process by which training might be offered to each distinctive group. I will discuss this concept in greater detail below.

Finding (SLS, Part 4, Pages 9-17)

"There is ... ample evidence to support the hypothesis that students relate more to courses and skills than to programs and that many of them, for positive reasons, have no interest in grades or college credit. These findings also help to explain the large number of W's given."

Discussion Within that group of students who take advanced vocational courses, there are seven identifiable prototypes, two of which (Tech/Transfer and Leisure Skills) should not properly be considered vocational according to the SLS. The SLS also points out that a relatively small percentage (22%) of all college students enroll in and identify with full programs: only the Vocational Program Completer and possibly the Tech/Transfer major.

The two vocational prototypes with the greatest number of vocational students, Job Seekers and Job Upgraders (over 80% of vocational enrollments) are either seeking minimal skills for job entry or increased job skills through relatively short-term college attendance. To me, this suggests strongly that traditional vocational programs/certificates need to be packaged into smaller two and three course "mini-certificates." Perhaps these mini-certificates could be keyed to the typical load of a part-time student: two courses and seven or eight units. In order to better attract the Job Upgraders, enrollment prerequisites might be based on pretests (of knowledge and skills) as well as prior course prerequisites.

Similarly, Job Upgraders and perhaps the Leisure Vocational Skills student, appear to have no particular interest in grades or college credit. What they do appear to be interested in learning are specific sets of skills, perhaps in modules which are more compact than the typical three to five-unit course of 60-90 hours' duration. One example of a curricula change which might meet these student interests is to develop more variable unit vocational course offerings.

This would allow students to earn 1, 2, 3 or 4 units per semester. Specific sets of performance-based learning objectives would be developed for each unit to be earned. Positive attendance would probably have to be a part of this revision. Therefore, these recommendations are implied (Other reviewers have made similar recommendations.):

6. Vocational managers should give emphasis to the redesign of their vocational program curricula to better meet identified vocational prototypes, giving consideration to such strategies as (a) variable unit credit, modularized instruction, competency based learning objectives, positive attendance, etc. (These procedure/s might be evaluated by checking for a reduction in the number of W grades issued in courses so modified.)

7. Consideration be given by the State Chancellor's Office to providing some VEA incentive funds (Subpart 2-New Program and/or Subpart 3-Staff Development) to stimulate this activity of curriculum modification.

Finding: Program Completers (13.6%) were primarily day students. Job Upgraders (32.8%) and Career Changers (8.1%) were primarily evening students Job Seekers (45.5%) were more evenly split with a slight preponderence toward day enrollment (SLS, Part 5, Page 15).

Discussion: Profiles of the four vocational prototypes (shown on my Table II) seem to reinforce the findings and support recommendations 6 and 7 above. Also a simple way of differentiating among prototypes is suggested by day and evening enrollments. This day-evening distinction should help vocational managers and instructors to recognize and accept the fact that day and evening students tend to have different vocational goals. This being the case, it seems to follow that many disciplines should consider modifying the standard (day) program pattern, course organization and instructional approach to better reflect the different needs and objectives of evening vocational students.

Lest we tend to denigrate the importance of the daytime Program Completer prototype, note that the mean number of courses passed by the Program Completer is 13.5 versus 3.5 by the Job Upgrader. (See my Table III.) Apparently, in terms of total courses taken, the Program Completer still seems to represent the single most important vocational prototype for instructors and managers to consider.

Based on the information given in Tables II and III and on the discussion above, it would appear that day curricula should continue to emphasize a full program for Program Completers. However, some type of special curricula and course modification should be considered for Job Seekers enrolled in daytime vocational courses. One promising example of a modification is to condense course offerings into half semester time periods, as well as to offer an A-B course sequence in one semester's time instead of two. This would enable the Job Seeker to move through and out of entry-level curricula at an appreciably faster rate and also provide more frequent "end of course" job-out opportunities. Recommendations 6 and 7 might be appropriately considered also to better serve the daytime Job Seeker.

Similarly, for evening instruction, it would make sense to emphasize curricula modification which would provide course content and delivery which is more specifically appropriate for the Job Upgrader. Again, however, special curricula modifications probably should be considered for the Job Seeker. It might not be necessary to provide special modifications for the Career Changer since they make up a relatively small percent of the total evening population. This recommendation is implied:

8. Vocational managers should analyze the day and evening student populations of selected disciplines and, where necessary, modify the curricula

and course delivery to more effectively serve the four vocational prototypes via differentiated day-evening offerings (also recommended by another reviewer).

Findings: The vast majority of vocational students said that the courses they studied were related to their jobs. During the course of the SLS, most students in the vocational sample continuously improved their jobs. Data presented in the SLS indicate that a significant proportion learned all or part of the skills required for their jobs at the community college. When asked to evaluate the college, the vocational students gave them a very high grade point average. (SLS, Part 5, Chapter 5, Pages 38 and 39)

Discussion: It seems evident from the above that, in general, college vocational curricula and courses do satisfactorily provide job-related vocational training for vocational students. It would also appear, that by adopting some variation of the prototype modifications suggested in Recommendations 4 and 5, vocational student followup data can be refined and be made even more useful. However, it seems equally clear that the value of followup information is diminished because the vocational prototypes have not, as yet, been separately identified, categorized and counted in traditional followup studies. At the very least, a distinction should be made between day and evening vocational students in the followup process.

For curriculum development purposes these distinctions and this type of information is considerably more important than is information about enrollment by ethnicity.

As an alternative to simply modifying the formal questionnaire currently in use, it might be possible to develop a somewhat different followup procedure. For example, a telephone followup process might be developed which could first determine the vocational prototype to which the person belonged and then ask a set of questions specific to that prototype.

10. Additional research needs to be conducted in order to seek to find a more effective instructional approach and/or curricula package for this group.

11. Alternatively, a technique for early identification of the Job Seeker should be developed so that special vocational funds can be more effectively and selectively applied to the academically, financially and "socially" disadvantaged of this group.

TABLE I

"VOCATIONAL" STUDENT PROTOTYPES, BY PERCENTAGE

(From SLS, Part 4, Table 3-2 and 3-4)

Function	%	Prototype	% of Total Number of Students Surveyed	% of Total Students Taking Voc Courses	% of Total Vocational Prototypes
Transfer, 7 Prototypes	35.6	Transfer/Tech Major (takes voc courses but intends to transfer)	7.9	14.2	
Vocational, 5 Prototypes	35.6	Voc Program Completer	4.9	8.7	13.6
		Job Seeker	16.5	29.7	45.5
		Job Upgrader and License Maintainer	11.9	21.4	32.8
		Career Changer	2.9	5.2	8.1
					100 %
Special Inter. 6 Prototypes	26.6	Leisure Skills (takes voc courses avocationally)	11.6	20.8	
		Total of Prototypes Assigned	55.7%	100 %	
No Prototype Assigned	2.0				
TOTAL	99.8%				

TABLE II

PROFILES OF VOCATIONAL DAY (Completers, Job Seekers) and

EVENING (Job Upgraders, Career Changers) STUDENTS

	Day Even.	Age	% M-F	Last School	Depend-ents		Prior Occupat Status	Occupat Level	Enrollment Pattern	Courses Passed	Courses Pass/Term
Completer	D	15-24	40-60	High School	0	Yes	Fulltime Stu., Not or PT Emp	Student, Semiskilled	Continuous	14	3
Job Seeker	D E	15-24	35-65	High School	0	Yes	Fulltime Stu., Not or PT Emp	Student, Semiskilled	1st term only, Continuous	4	2
Job Upgrader	E	15-39	45-55	Other comm coll, 4 yr College	1+	No	Fulltime Job, PT or non Stu.	Semiskilled, Supervisory	1st term only, Cont Enroll, Intermitt Enr.	4	1
Career Changer	E	20-44	54-46	Other comm coll, 4 yr College	1+	No	Fulltime Job, PT or non Stu.,	Semiskilled, Supervisory	Continuous Enrollment	5	2

TABLE III

COMPARISON OF TOTAL MEAN COURSES PASSED

BY VOCATIONAL PROTOTYPE (SLS 5, Table 5-18)

Prototype	% of Sample	N =	X	Mean Number of Courses Passed	=	Mean Total No of Courses Taken
Program Completer	16.1	371		13.53		5,020
Job Seeker	38.0	876		4.28		3,749
Job Upgrader	36.7	846		3.50		2,961
Career Changer	9.3	215		4.66		1,002

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